



lowa Department of Transportation Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

PRIMARY ROAD SYSTEM

BUCHANAN COUNTY BRIDGE REPLACEMENT - PPCB IA 150 OVER BEAR CREEK 0.9 MI. N. OF COUNTY RD D-47

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

ENGLISH STANDARD BRIDGE PLANS STANDARD ISSUED REVISED

REVISIONS

	TOTAL SHEETS
	90
PROJECT NUM	MBER
BRFN-150-3(67)	-39-10
R.O.W. PROJECT	NUMBER
	1 0
PROJECT IDENTIFICA	TION NUMBER

08-10-150-010

11	NDEX OF SHEETS							
NO.	DESCRIPTION							
- 1	TITLE SHEET							
2	ESTIMATE SHEET - DESIGN 113							
2-24	2-24 DESIGN 113							
25	25 ESTIMATE SHEET - DESIGN 213							
25-31	DESIGN 213							
SPS.I-SPS.4	SOIL PROFILE SHEETS							
C.I	ESTIMATE SHEET FOR ROADWAY							
A.I-W.23	ROADWAY SHEETS							

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STANDARD ROAD PLANS STANDARD ROAD PLANS ARE LISTED

ON SHEET NUMBER DESIGN DATA BURNI

DES	IGIA	DAI	AIN	UNAL
2013	AADT		4549	V.P.D.
2033	AADT		5700	V.P.D.
2033	DHV		589	V.P.H.
TRUCK	S		15	_ %
Total Desia	n ESAL	s	7,90	0,000

	INDEX OF S	SEALS
SHEET NO.	NAME	TYPE
ı	JAMES S. NELSON	STRUCTURAL DESIGN
I	CHRISTINE E. KING	HYDRAULIC DESIGN
SPS.I, C.12	ROBERT L. STANLEY	GEOTECHNICAL DESIGN
A.I	YANXIAO JIA	ROADWAY DESIGN
BRIDGE STANDARDS	NORMAN L. McDONALD	STRUCTURAL DESIGN

HYDRAULIC DESIGN



SUBMITTED BY ___

hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Christine E. King Printed or Typed Name

My license renewal date is December 31, 2012

Pages or sheets covered by this seal:

REVISIONS TO THIS DESIGN PLAN AND/OR

PROJECT SPECIFICATIONS SHOULD BE

STRUCTURAL DESIGN



PROJECT NUMBER BRFN-150-3(67)--39-10

hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

SHEET NUMBER

James S. Nelson Printed or Typed Name

My license renewal date is December 31, 2013

Pages or sheets covered by this seal: SHEETS I THRU 31 OF 90

DESIGN NO.

113 & 213

R-9W

		ESTIMATED BRIDGE QUANTITIES			
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2401-6745625	REMOVAL OF EXISTING BRIDGE	LS	1.00	
2	2402-2720000	EXCAVATION, CLASS 20	CY	234	
3	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY	458.7	
4	2404-7775000	REINFORCING STEEL	LB	7,898	
5	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	94,302	
6	2407-0551355	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C55	EACH	14	- A L Pa
7	2407-0551380	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C80	EACH	7	
8	2408-7800000	STRUCTURAL STEEL	LB	6,166	
9	2414-6424110		LF	440.0	
10	2501-0201057	PILES, STEEL, HP 10 X 57	LF	3,270	
- 11	2501-5478057		LF	269.5	T
12	2501-6335010		LF	200	
13	2507-3250005	ENGINEERING FABRIC	SY	535.0	
14	2507-6800061	REVETMENT, CLASS E	TON	615.0	
15	2507-8029000	EROSION STONE	TON	16.5	
16	2520-3350015	FIELD OFFICE	EACH		
17	2526-8285000	CONSTRUCTION SURVEY	LS	1.00	
18	2533-4980005	MOBILIZATION	LS	1.00	
19	2601-2638650	BRIDGE WING ARMORING - EROSION STONE	SY	22.2	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
-	2401-6745625	REMOVAL OF EXISTING BRIDGE ALL BRIDGE REMOVAL DEBRIS DROPPED INTO BEAR CREEK SHALL BE REMOVED WITHIN 4 DAYS.
2	2402-2720000	EXCAVATION, CLASS 20
3	2403-0100010	STRUCTURAL CONCRETE (BRIDGE) INCLUDES COST OF FURNISHING AND PLACING SPLASH BASINS (INCLUDING EXCAVATION, EROSION STONE OR CLASS E REVETMENT, AND ENGINEERING FABRIC).
		INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED.
		INCLUDES FURNISHING AND PLACING SUBDRAIN (INCLUDING EXCAVATION), FLOODABLE BACKFILL, POROUS BACKFILL, GEOTEXTILE FABRIC, WATER FLOODING, AND SUBDRAIN OUTLET AT ABUTMENTS AND TOE OF BERM.
		INCLUDES FURNISHING AND PLACING 3 INCH DIAMETER PVC PLASTIC PIPE AND EXPANDING FOAM IN THE ABUTMENT WINGS.
4	2404-7775000	REINFORCING STEEL
5	2404-7775005	REINFORCING STEEL, EPOXY COATED
6	2407-0551355	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C55 COARSE AGGREGATES FOR PRESTRESSED CONCRETE BRIDGE UNITS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 4115 CLASS III DURABILITY. GRADATION OF THE COARSE AGGREGATE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 2407.02, A, OF THE STANDARD SPECIFICATIONS.
		INCLUDES PIER AND ABUTMENT BEARING MATERIAL.
7	2407-0551380	BEAMS, PRETENSIONED PRESTRESSED CONCRETE, C80 COARSE AGGREGATES FOR PRESTRESSED CONCRETE BRIDGE UNITS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 4115 CLASS III DURABILITY. GRADATION OF THE COARSE AGGREGATE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 2407.02, A, OF THE STANDARD SPECIFICATIONS.
		INCLUDES PIER BEARING MATERIAL.
8	2408-7800000	STRUCTURAL STEEL INCLUDES COST OF 12 DRAINS AT 106 LBS STEEL PER DRAIN.

ESTIMATE REFERENCE INFORMATION

	ITEM NO.	ITEM CODE	DESCRIPTION
	9	2414-6424110	CONCRETE BARRIER RAILING INCLUDES MATERIAL AND LABOR ASSOCIATED WITH PROVIDING AND INSTALLING THE RIGID STEEL CONDUIT, JUNCTION BOXES AND FITTINGS.
			INCLUDES 224 LF OF 2" DIAMETER RIGID STEEL CONDUIT.
		. 4	INCLUDES 45.9 CY OF CLASS C OR CLASS BR STRUCTURAL CONCRETE AND 11066 LBS OF EPOXY COATED REINFORCING STEEL.
			IF PLACEMENT OF CONCRETE IS DONE BY THE SLIPFORMING METHOD, CLASS BR CONCRETE IS REQUIRED. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. PRICE BID FOR THIS ITEM SHALL INCLUDE THE COST OF CAST-IN-PLACE FORMS IF REQUIRED FOR PLACEMENT OF THE CONCRETE.
	10	2501-0201057	PILES, STEEL, HP IO X 57
	11	2501-5478057	CONCRETE ENCASEMENT OF STEEL H PILES, HP 10 X 57 (PIOL TYPE 3) SHALL BE FULL PAYMENT FOR NECESSARY EXCAVATIONAND FOR FURNISHING AND PLACING ALL MATERIAL.
	12	2501-6335010	PREBORED HOLES
	13	2507-3250005	ENGINEERING FABRIC INCLUDES FURNISHING AND PLACING UNDER REVETMENT AND EROSION STONE.
	14	2507-6800061	REVETMENT, CLASS E ESTIMATED AT 1.6 TON/CY.
1			INCLUDES 360 TONS AT SOUTH BANK AND 255 TONS AT NORTH BANK.
_	15	2507-8029000	EROSION STONE INCLUDES FURNISHING AND PLACING EROSION STONE AT ABUTMENT BERMS AND ALL REQUIRED SHAPING AND COMPACTING.
			ESTIMATED AT 1.6 TON/CY.
	16	2520-3350015	FIELD OFFICE
	17	2526-8285000	CONSTRUCTION SURVEY
	18	2533-4980005	MOBILIZATION
	19	2601-2638650	BRIDGE WING ARMORING - EROSION STONE INCLUDES FURNISHING AND PLACING ENGINEERING FABRIC, EROSION STONE, AND ALL REQUIRED EXCAVATING, SHAPING AND COMPACTIN FOR WING ARMORING.

NOTE: ROADWAY QUANTITIES SHOWN ELSEWHERE IN THESE PLANS.

DESIGN FOR 40° SKEW (R.A.)

193'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

55'-9 END SPANS

81'-6 INTERIOR SPAN

QUANTITIES

STATION: 308+14.67 NOVEMBER, 2012

BUCHANAN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 23 FILE NO. 30661 DESIGN NO. 113

BUCHANAN COUNTY

PROJECT NUMBER BRFN-150-3(67)--39-10

SHEET NUMBER

GENERAL NOTES:

IT IS THE INTENT OF THIS DESIGN TO CONSTRUCT A 193'-0 imes 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE, SKEWED 40°, ON IA 150 AT STATION

THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 126'-0 imes 26' CONTINUOUS CONCRETE SLAB BRIDGE, DESIGN NO. 154. PLANS OF THE EXISTING STRUCTURE WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - HIGHWAY DIVISION - IOWA D.O.T. - AMES.

THE LUMP SUM BID FOR "REMOVAL OF EXISTING BRIDGE" SHALL INCLUDE REMOVAL OF THE EXISTING 126'-O X 26'-O CONTINUOUS CONCRETE SLAB BRIDGE.

REMOVALS SHALL BE IN ACCORDANCE WITH SECTION 2401, OF THE STANDARD

THIS BRIDGE IS DESIGNED FOR HL-93 LOADING, PLUS 20 LBS. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.

FAINT LINES ON PLANS INDICATE THE EXISTING STRUCTURE.

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE STARTING DATE.

THE CONTRACTOR SHALL NOTE THE STANDARD ABUTMENT DETAILS HAVE BEEN MODIFIED TO OFFSET THE ABUTMENT FOOTING FROM THE WINGWALL TO AID IN TYING THE REINFORCING STEEL BETWEEN THE FOOTING TO WINGWALL AND THE FOOTING TO BACKWALL.

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THE BRIDGE CONTRACTOR WILL BE THE ONLY CONTRACTOR AT THE SITE AND IS RESPONSIBLE FOR THE COMPLETION OF ALL WORK AS DETAILED AND NOTED IN THESE PLANS.

THE BRIDGE CONTRACTOR SHALL PREBORE HOLES FOR ABUTMENT PILES. HOLES SHALL BE BORED TO THE ELEVATIONS SHOWN ON THE "LONGITUDINAL SECTION ALONG CENTERLINE ROADWAY" ON DESIGN SHEET 3. PILES SHALL BE DRIVEN THROUGH THE HOLES TO AT LEAST THE SPECIFIED DESIGN BEARING.

CONCRETE BARRIER RAILS PLACED USING THE SLIPFORM METHOD WILL REQUIRE THE USE OF A CLASS BR CONCRETE IN ACCORDANCE WITH ARTICLE 2513.03, A, 2, OF THE STANDARD SPECIFICATIONS. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. CLASS D CONCRETE IS NOT PERMITTED FOR CONCRETE BARRIER RAILS (CAST-IN-PLACE OR SLIPFORMED METHOD).

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM

CONCRETE FORMS ARE REQUIRED TO REMAIN IN PLACE 5 DAYS OR LONGER IN ACCORDANCE WITH ARTICLE 2403.03, M, 2, OF THE STANDARD SPECIFICATIONS, EXCEPT THE MINIMUM CONCRETE FLEXURAL STRENGTH REQUIRED BEFORE REMOVAL OF FORMS SHALL BE 575 PSI.

SPECIFICATIONS:

DESIGN: AASHTO LRFD 4TH ED. SERIES OF 2007 CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH ED. SERIES OF 2007. REINFORCING STEEL IN ACCORDANCE WITH SECTION 5, GRADE 60. CONCRETE IN ACCORDANCE WITH SECTION 5, f'c = 4,000 PSI. PRESTRESSED CONCRETE BEAMS, SEE DESIGN SHEET 15. STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 6 ASTM A709 GRADE 36.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5al IS & INCH DIAMETER BAR). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

	ENGLISH SIZE	3	4	5	6	7	8	9	10	11
9	BAR DESIGNATION	10	. 13	16	19	22	25	29	32	36

В	RIDGE DECK DIMENS	IONS	TABLE
NO.	ITEM	UNIT	QUANTITY
1	DECK LENGTH	L.F.	196′-11
2	MINIMUM DECK WIDTH	L.F.	47′-2
3	MAXIMUM DECK WIDTH	L.F.	47′-2
4	DECK AREA	S.F.	9287.9

- I. DECK LENGTH IS MEASURED FROM FACE-TO-FACE OF PAVING NOTCHES ALONG THE CENTERLINE OF THE ROADWAY.
- 2, 3. DECK WIDTHS ARE MEASURED FROM OUT-TO-OUT OF DECK PERPENDICULAR TO THE CENTERLINE OF ROADWAY.
- 4. DECK AREA IS TO BE BASED ON THE FACE-TO-FACE PAVING NOTCH DISTANCE AND OUT-TO-OUT DECK DIMENSIONS.

NOTE:

RL-16 TEMPORARY STREAM CROSSING, CAUSEWAY, OR EQUIPMENT PAD IS NOT AUTHORIZED FOR THIS

NO EQUIPMENT SHALL BE DRIVEN INTO THE CREEK.

POLITION PREVENTION PLAN SHOWN FLSEWHERE IN THESE PLANS.

TRAFFIC CONTROL PLAN

NOTE: THE ROADWAY WILL BE OPEN TO THRU TRAFFIC. REFER TO THE TRAFFIC CONTROL PLAN SHOWN ELSEWHERE IN THESE PLANS

DESIGN FOR 40° SKEW (R.A.)

193'-0 x 44' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

55'-9 END SPANS 81'-6 INTERIOR SPAN

GENERAL NOTES

STATION: 308+14.67

NOVEMBER, 2012

BUCHANAN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION DESIGN SHEET NO. 2 OF 23 FILE NO. 30661 DESIGN NO. 113

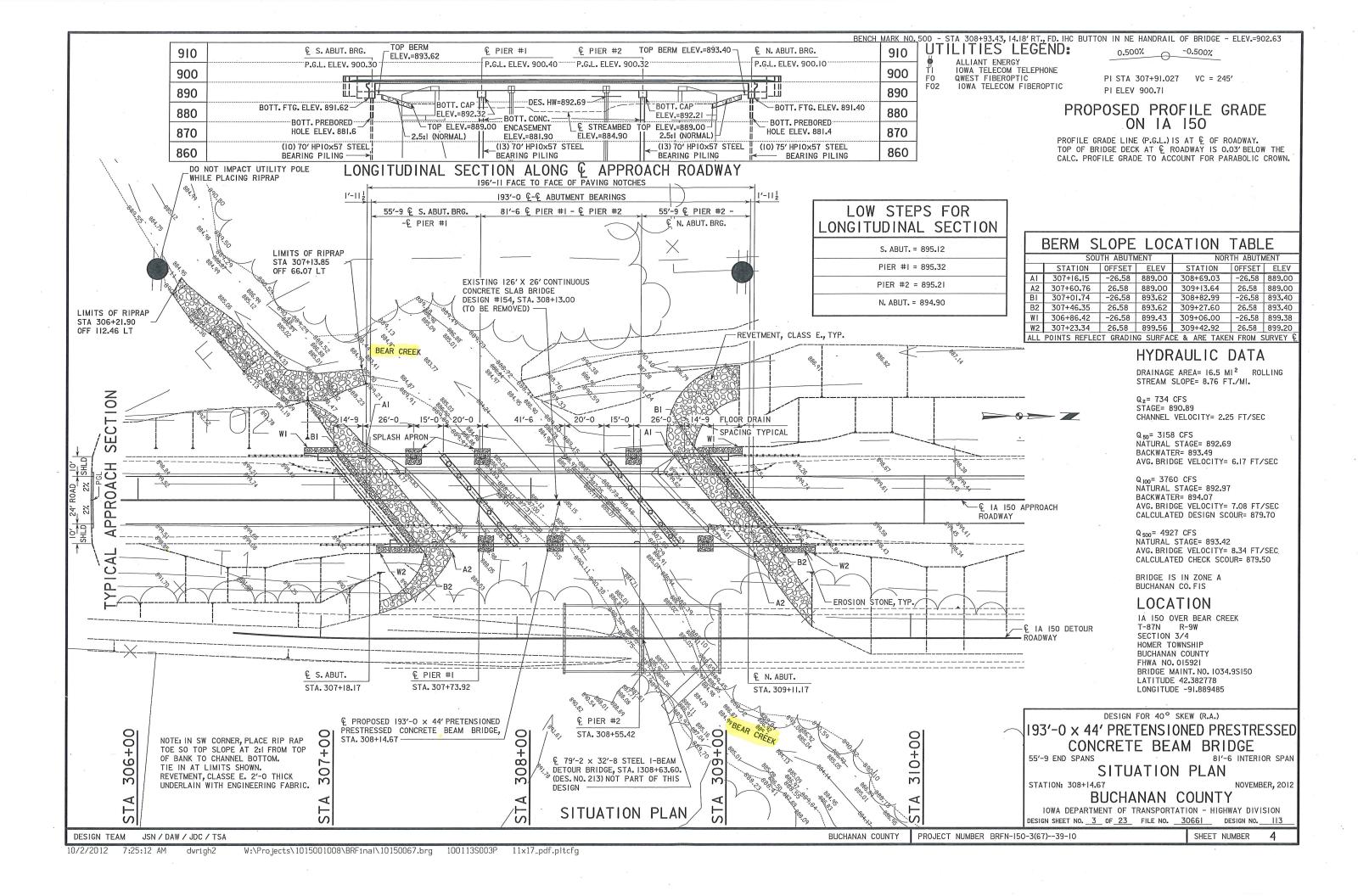
DESIGN TEAM JSN / DAW / JDC / TSA

BUCHANAN COUNTY

PROJECT NUMBER BRFN-150-3(67)--39-10

SHEET NUMBER

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| Sign |

R-9W

LOCATION MAP SCALE

NO MILEAGE SUMMARY

STA. 308+13.04 PROJECT LOCATION

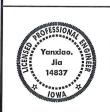
					101-4
				04	-30-02
DESI	GN	D/	ATA	RL	JRAL
2013	AADT		45	549	V.P.D.
2033	AADT		57	00	V.P.D.
2033	DHV		5	89	V.P.H.
TRUCK	S			15_	%
Total Design	ESAL	.5 .	7,90	0,00	0

DESCRIPTION No. Title Sheets A Sheets A.1 Title Sheet B Sheets Typical Cross Sections and Details B.1 - 4Typical Cross Sections and Details C Sheets Quantities and General Information C.1 - 12 Tabulations D Sheets Mainline Plan and Profile Sheets * D.1 Plan & Profile Legend Sheet * D.2 IA 150 Mainline Plan & Profile Sheet F Sheets Detour or Temporary Pavement Sheets * F.1 IA 150 Detour Plan and Profile Sheet G Sheets Survey Sheets Reference Ties and Bench Marks G.1 - 3 G.4 - 5 Alignment Coordinates & Superelevation H Sheets Right-of-Way Sheets H.1 IA 150 Mainline & Detour J Sheets Traffic Control and Staging Sheets Traffic Control Plan J.1 Staging Notes J.1 J.1 Tabulation of Special Events Sheets Geometric, Staking and Jointing Sheets L.1 - 2 Geometric & Staking "Mainline or Side Road Name" T Sheets Earthwork Quantity Sheets T.1 - 2 Earthwork Quantity Sheets U Sheets 500 Series, Mod.Stds. and Detail Sheets U.1 Temporary Barrier Rail Placement Details W Sheets Mainline Cross Sections W.1 Cross Sections Legend Sheet W.2 - 11 IA 150 Detour Cross Sections IA 150 Mainline Cross Sections W.12 - 23 * Color Plan Sheets

INDEX OF SHEETS



ROADWAY DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature
Yanxiao Jia
Printed or Typed Name

My license reneval date is December 31, 2012

Pages or sheets covered by this seal: <u>A.1, B.1-B.4, C.1-C.1!, D.1-D.2, F.1, G.1-G.5, H.1-H.2, J.1, L.1-L.2, T.1-T.2, U.1, W.1-W.23</u>

Design No. 113/213 File No. 30661

-39-10 | SHEET NUMBER A.

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DESIGN TEAM Jia\Skogerboe

BUCHANAN COUNTY

PROJECT NUMBER

BRFN-150-3(67)--39-10

-88N

-87N

ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT)

tom No	Ttom Codo	Thom	Unit	Unit Contract Quantities Unit Contract										
tem No.	Item Code	Item	Unit								Total Division 1 Division 2 Division 3 Division			
	1			NTATOTOII T	DIATOTOLI 7	21/13/1011 3	214121011 4	51,151011 5						
1	2101-0850001	CLEARING AND GRUBBING	ACRE	<u></u>		2.9			2.9					
2		SPECIAL BACKFILL	TON	1		3,129.6			3,129.6					
3		EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY		,	19,826.0			19,826.0					
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY			5.0			5.0					
5		TOPSOIL, FURNISH AND SPREAD	CY			976.0			976.0					
6	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY			574.0			574.0					
7	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY			560.0			560.0					
8	2115-0100000	MODIFIED SUBBASE	CY		ļ	151.4			151.4					_
9		GRANULAR SHOULDERS, TYPE A	TON			923.5			923.5					
10		TRENCHING AND RESHAPING	STA			12.10			12.10			······································	······································	
11	2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR	SY			85.4			85.4					
		BRIDGE END DRAIN)			ļ	161.0			464,9		,,,		,	-
12		PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 6 IN.	SY			464.9			23.00					-
13		SHOULDER CONSTRUCTION, EARTH	STA			23.00			1					· [
14		RELOCATION OF MAIL BOXES	EACH		-	1 645.0			645.0					<u> </u>
15	2301-0690200	BRIDGE APPROACH, RK-20	SY			374.0			374.0					
16	2301-1033095	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C,	SY			374.0			374.0					
17	2204 0100000	CLASS 3 DURABILITY, 9.5 IN.	SY			2,689.0			2,689.0			i		
17		DETOUR PAVEMENT SUBSECTING DETUSED STONE	TON	<u> </u>	 	48.1			48.1					
18 19		SURFACING, DRIVEWAY, CLASS A CRUSHED STONE LONGITUDINAL GROOVING IN CONCRETE	SY			1,539.0			1,539.0					
20		APRONS, UNCLASSIFIED, 30 IN. DIA.	EACH		†	2			2					
21	2422-0300030	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 30 IN. DIA.	LF		†	76			76					
22	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF.			390.4			390.4					
23		SUBDRAIN OUTLET, RF-19E	EACH			8			8					
24		BRIDGE END DRAIN, RF-40	EACH			4	1		4				the state of the s	
25		REMOVAL OF STEEL BEAM GUARDRAIL	LF			225.0			225.0				*************************	
26		STEEL BEAM GUARDRAIL	LF		ĺ	100.0			100.0					
27		STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION	EACH			4			4					
28		STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH			4			4		,			
29		STEEL BEAM GUARDRAIL END TERMINAL	EACH			4			4					
30	2510-6745850	REMOVAL OF PAVEMENT	SY			3,629.0			3,629.0					
31	2518-6910000	SAFETY CLOSURE	EACH			2			2					
32		TEMPORARY DELINEATORS	EACH	:		80			80					
33		PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA			99.30			99.30					
34		WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA			8.30			8.30 35.90					
35		PAVEMENT MARKINGS REMOVED	STA			35.90			475.0					
36		TEMPORARY BARRIER RAIL, CONCRETE	LF			475.0			4/3.0					
37		TEMPORARY FLOODLIGHTING LUMINAIRE	EACH			2			1.00					
38		TRAFFIC CONTROL	LS			1.00			See Proposal					<u> </u>
39	2528-8445113		EACH EACH			See Proposal 4			4					
40		TEMP CRASH CUSHION	LS		ļ	1.00			1.00					
41 42	2555-00000010	DELIVER AND STOCKPILE SALVAGED MATERIALS RMV AND REINSTALL UNCL. APRONS, 30 IN.	EACH			2			2					
43			LF			76.0			76.0					
44	2601-2634100	RMV AND REINSTALL UNCL. ENT. PIPE, 30 IN	ACRE			5.4			5.4					
45		NATIVE GRASS SEEDING .	ACRE			2.6			2.6					
46		SEEDING AND FERTILIZING (RURAL)	ACRE			0.5			0.5					
47	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE		1	5.4			5.4					
48	2602-0000020		LF			5,282.0	`		5,282.0					
49		SILT FENCE FOR DITCH CHECKS	LF			731.0			731.0					
50		REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF		Ì	2,356.0			2,356.0					
51		MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF			472.0			472.0					
52		FLOATING SILT CURTAIN (HANGING)	LF			410.0		en en de de secretario de la compansión de	410.0			endeder eider bei ein der bereichte der ein der	and the second section of the section of the second section of the section	
53	2602-0000222	FLOATING SILT CURTAIN (CONTAINMENT)	LF			410.0			410.0					
54	2602-0000230	CLEAN-OUT OF FLOATING SILT CURTAIN (CONTAINMENT)	LF			820.0			820.0					
55		PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF			200.0			200.0					
56		PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF			200.0			200.0					-
57	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH			11			1					
58	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH			1			1					÷
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Design No. 113/213
File No. 30661

ENGLISH IOWA DOT DESIGN TEAM Jia/Skogerboe

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Buchana COUNTY PROJECT NUMBER BRFN-150-3(67)--39-10 SHEET NUMBER C.1

100-4A 10-29-02

em No.	Item Code	Description
1	2101-0850001	CLEARING AND GRUBBING Includes clearing and grubbing necessary for installation of bridge.
2	2102-0425070	SPECIAL BACKFILL Refer to Typical 2 Detour and Typical 7156 on Sheets B.3 and B.4, respectively, for locations and details Includes 943 tons of material for the Detour subbase, 328 tons of material for paved shoulders at guardrail on mainline and 1939 tons for the detour bridge abutments.
3	- 2102-2710070	Also refer to Tab. 112-9 and the Bridge Plans for more information. - EXCAVATION, CLASS 10, ROADWAY AND BORROW
3	2102-2710070	Refer to "T" sheets.
		Stage 1: Includes 636 cu. yds. of Class 10 cut and 7263 cu. yds. of Contractor furnished borrow for a runaround detour. Quantity also includes 1026 cu. yds. of Class 10 cut for detour bridge abutments. Refer to the Bridge Plans for more information.
		Stage 2: Includes 1588 cu. yds. of Class 10 cut and 860 cu. yds. of Contractor furnished borrow for mainline. Quantity also includes 265 cu. yds. of excavations from below the grading surface for revetment placement Refer to the Bridge Plans for locations and details.
		Stage 3: Includes 7923 cu. yds. of Class 10 excavation to the runaround detour embankment. 1303 cu. yds. of fill will be used from this quantity to fill detour ditches to existing ground conditions.
		The remaining 6620 cu. yds. of Class 10 to be wasted, as per Article 1106.07 of the current specifications Overhaul will not be paid for on this item.
		Totals: Class 10 Cut = 11438 cu. yds. Borrow = 8123 cu. yds. Waste = 6620 cu. yds.
_	_	Special attention should be given to Section 2107.03.C, Standard Specification Series of 2009, on this pro
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS Refer to Tab. 103-7.
5	2105-8425005	TOPSOIL, FURNISH AND SPREAD Refer to Tab. 103-4. The Contractor shall provide all the required topsoil and follow provisions in Section 2105 of the current specifications.
		Method of Mesurement: The quantity of topsoil furnished and spread will be measured in cubic yards and will be computed on the depth of topsoil specified in the contract document over the area involved plus 40% to account for compaction shrinkage and hauling losses. Sufficent field measurements will be taken to assure reasonable conformity with the required final thickness of topsoil in place.
		Basis of Payment: The Contractor will be paid the contract unit price for topsoil, furnish and spread per cubic yard of topsoil placed, measured as provided above.
		Overhaul will not be paid for on this item.
6	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD Includes 574 cu. yds. available from stripping a nominal one foot of toposil. Refer to Tab. 103-4 for location and details.
7	- 2113-0001100	- SUBGRADE STABILIZATION MATERIAL, POLYMER GRID Refer to the Bridge Plans for more information.
- 8	- 2115-0100000	MODIFIED SUBBASE To be used on mainline. Refer to Roadway Typical on Sheet B.2 for
9	- 2121-7425010	locations and details GRANULAR SHOULDERS, TYPE A Includes 21 tons for mainline shoulders and 562.5 tons for Detour shoulders. Also includes 340.0 tons to reshape mainline shoulders for the proposed final foreslopes. Refer to Tab. 112-9 and Typical 7136-X on Sheet B.3 for locations and details.
- .0	- 2121-8450810	- TRENCHING AND RESHAPING Refer to Typical 7136-X on Sheet B.3 for locations and details.
- .1	- 2122-5190501	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR BRIDGE END DRAIN) Refer to Tab. 104-8A.

Design No. 113/213 File No. 30661

Buchanan COUNTY PROJECT NUMBER BRFN-150-3(67)--39-10

SHEET NUMBER C.2 100-4A

50

10-29-02

ESTIMATE REFERENCE THEORMATION

	Item Code	Description
		<u>'</u>
_		_
37	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE
**********		Refer to Tab. 108-27 for location and details.
38	2528-8445110	TRAFFIC CONTROL
	2320 0443110	Refer to Tab. 108-23 on Sheet J.1.
-	-	-
39	2528-8445113	FLAGGERS
40	- 2551-0000110	TEMP CRASH CUSHION
	2331-0000110	Refer to Tab. 108-30 for locations and details.
-	-	
41	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS
	ļ	Refer to Tab. 110-13 for location and details.
- 42	- 2599-9999005	- RMV AND REINSTALL UNCL. APRONS, 30 IN.
	2555-5555665	Refer to Tab. 102-3 for location and details.
***************************************		Neter to Tube 202 5 to 100 detection and decentary
		Method of Measurement: Measure by amount of aprons placed.
		Basis of Payment: Payment for each apron placed.
- 43	2599-9999009	RMV AND REINSTALL UNCL. ENT. PIPE, 30 IN
د-	2333-3333003	Refer to Tab. 102-3 for location and details.
		Method of Measurement: Unclassified entrance pipe measured in linear feet placed.
		Basis of Payment: Payment for linear feet of unclassified entrance pipe placed.
- 44	2601-2634100	MULCHING
	2001-2034100	Mulch: Rate 1-1/2 tons of dry cereal straw per acre. All mulch is to be consolidated into the soil with
**************		the mulch stabilizer. Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop
		Improvement Association or adjacent states Crop Improvement Associations.
-	-	
45	2601-2636015	NATIVE GRASS SEEDING
		Included for disturbed areas following final construction.
		Seed Mixture: (Area outside 8 ft. Adj. to shoulder)
		*Canada Wildrye 10 lbs. PLS per acre
		*Grain Rye 40 lbs. per acre
		*Indiangrass 10 lbs. PLS per acre
		*Big Bluestem 10 lbs. PLS per acre
		*Switchgrass 5 lbs. PLS per acre *Sideoats Grama 5 lbs. PLS per acre
		*Little Bluestem 5 lbs. PLS per acre
		*Blackeyed Susan 4 ozs. PLS per acre
		*Purple Prairie Clover 4 ozs. PLS per acre
		*Prairie Blazing Star 4 ozs. PLS per acre
		*Grayhead Prairie Coneflower 4 ozs. PLS per acre
		*Purple Coneflower 4 ozs. PLS per acre
		*Seed shall be certified as Source Identified Class (Yellow Tag)Source/G0-Iowa.
		222 2.122 22 22 22 22 22 22 22 22 22 22 22 22
		Fertilizer: Rate400 lbs. of 13-13-13 or equivalent commercial fertilizer per acre.
46	2601-2636043	SEEDING AND FERTILIZING (RURAL) Trained for runal disturbed area fallowing the final contraction
I		Included for rural disturbed areas following the final construction.
		Seed Mixture: (Area 8 ft. Adi. to shoulder)
***********		Seed Mixture: (Area 8 ft. Adj. to shoulder) Fescue, Tall (Fawn) 55 lbs. per acre
		Fescue, Tall (Fawn) 55 lbs. per acre Ryegrass, Perennial 45 lbs. per acre
		Fescue, Tall (Fawn) 55 lbs. per acre
		Fescue, Tall (Fawn) 55 lbs. per acre Ryegrass, Perennial 45 lbs. per acre Red Clover 5 lbs. per acre
		Fescue, Tall (Fawn) 55 lbs. per acre Ryegrass, Perennial 45 lbs. per acre
		Fescue, Tall (Fawn) 55 lbs. per acre Ryegrass, Perennial 45 lbs. per acre Red Clover 5 lbs. per acre
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		Fescue, Tall (Fawn) 55 lbs. per acre Ryegrass, Perennial 45 lbs. per acre Red Clover 5 lbs. per acre

tem No.	Item Code	Description
47	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING
		Included for all rural areas of the right of way.
	A	Seed Mixture (Rural):
~~~~~~~~~~~~		Spring-March 1 to May 20
		Oats 2 bu per acre
		Grain Rye 25 lbs per acre
		Red Clover 5 lbs per acre
		Timothy 5 lbs per acre
		Summer-May 21 to July 20
		Oats 3 bu per acre
		Grain Rye 35 lbs per acre
		Red Clover 5 lbs per acre
		Timothy 5 lbs per acre

**ESTIMATE REFERENCE INFORMATION** 

-	-	-
48	2602-0000020	SILT FENCE
		Refer to Tab. 100-17.
		The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered
***************************************		during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item
	***************************************	includes 25% additional quantity for other locations of erosion.
_	-	-
49	2602-0000030	SILT FENCE FOR DITCH CHECKS
		Refer to Tab 100-18.
		The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion
		to be encountered during construction. Verify the specific locations with the Engineer prior to beginning
	14	placement. Bid item includes 50% additional quantity for field adjustments and replacements.
	1	

This item is included for silt fence and silt fence for ditch check removal required that have achieved

Fertilizer: Rate-450 lbs of 13-13-13 or equivalent commercial fertilizer per acre.

2602-0000101 MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK 51 This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during construction. 2602-0000212 FLOATING SILT CURTAIN (HANGING)
2602-0000222 FLOATING SILT CURTAIN (CONTAINMENT) 53 54 2602-0000230 CLEAN-OUT OF FLOATING SILT CURTAIN (CONTAINMENT)

Approximate Locations: Critical Perimeters, and Slopes Protection.

2602-0000312 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. 2602-0000320 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA. These items are included for the temporary perimeter sediment control and water velocity reduction on slopes.

2602-0000312 PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA. These items are included for the temporary perimeter sediment control and water velocity reduction on slopes. 57 2602-0010010 MOBILIZATIONS, EROSION CONTROL

2602-0010020 MOBILIZATIONS, EMERGENCY EROSION CONTROL

Grain Rye

Red Clover Timothy

Oats

Fall-July 21 to September 30

2 bu per acre

35 lbs per acre 5 lbs per acre 5 lbs per acre

2602-0000071 REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS

Refer to Tab. 100-10 for locations and details.

70% permanent growth.

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232-3D

### INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
105-4	STANDARD ROAD PLANS	C.5
110-12A	POLLUTION PREVENTION PLAN	C.6
100-28	LONGITUDINAL GROOVING	C.7
102-3	ACCESS POINTS AND SAFETY RAMPS	C.7
102-5	EXISTING PAVEMENT	C.7
108-13A	SAFETY CLOSURES	C.7
110-1	REMOVAL OF PAVEMENT	C.7
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.7
110-13	DELIVERY AND STOCKPILING	C.7
100-10	FLOATING SILT CURTAINS	C.8
100-17	TABULATION OF SILT FENCES	C.8
100-18	TABULATION OF SILT FENCES FOR DITCH CHECKS	C.8
107-23	GRADING FOR GUARDRAIL INSTALLATIONS	C.8
108-8A	STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE END POST	C.8
108-22	PAVEMENT MARKING LINE TYPES	C.9
103-4	TABULATION OF SPREADING TOPSOIL	C.10
112-9	SHOULDERS	C.10
104-8A	SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN	C.11
108-27	TEMPORARY FLOODLIGHTING LUMINAIRES	C.11
108-30	CRASH CUSHIONS	C.11
108-33	TEMPORARY BARRIER RAIL	C.11
112-6	BRIDGE APPROACH SECTION	C.11
103-7	SHRINKAGE DATA	C.12
104-9	LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE	C.12

### On-Site Detour Notes

After the on-site detour is no longer needed and the material used for the detour is removed, the area shall be reshaped to approximate pre-existing conditions and topsoiled. More specifically, a minimum of 0.11 acre area shall be restored to elevation 889.00 and no deeper than 2 feet below the original ground surface. The minimum 0.11 acre area is intended for vetland restoration and shall be reseeded with wetland seed mix using Standard Note 232-3D. All disturbed areas shall be stabilized and fertilized as per Section 2601-05 of the Standard Specifications.

### Special Note

The Contractor should not pursue dredging on their own because access to Bear Creek is not allowed by DOT and other regulatory

# 262-6 10-18-05

### UTILITIES

### (NOT A POINT 25 PROJECT)

This is NOT a POINT 25 project and is not subject to the provisions of IAC 761-115.25.

### **EROSION CONTROL**

### (WETLAND GRASS SEEDING/404 PERMIT)

Following the completion of work in a disturbed area, place seed, fertilizer, and mulch on the <mark>disturbed area consisting o</mark>f wetlands lying 15 feet or more beyond the shoulder as follows:

Refer to Table 2601.03-4 in Section 2601 of the Standard Specifications.

### FERTILIZER:

5 lbs. of 13-13-13 (or equivalent) commercial fertilizer per 1000 sq. ft.

70 lbs. of dry cereal straw per 1000 sq. ft. For areas disturbed, but not seeded by September 30th, scarify to a 3 inch depth and mulch. Consolidate all mulch into the soil with a mulch

Use Certified Noxious Weed Seed Free Mulch as determined by the Iowa Crop Improvement Association or adjacent state's Crop Improvement Association.

Preparing the seedbed and furnishing and applying seed, fertilizer, and mulch is incidental to mobilization and will not e paid for separately.

### STANDARD ROAD PLANS

		The following Standard Road Plans apply to construction work on this project.
Number	Date	Title
BA-200		Steel Beam Guardrail Components
BA-201	10-19-10	Steel Beam Guardrail Barrier Transition Section
BA-202		Steel Beam Guardrail Bolted End Anchor
BA-205		Steel Beam Guardrail End Terminal
BA-250	10-18-11	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post
BA-401		Temporary Barrier Rail (Precast Concrete)
BA-500		Temporary Crash Cushions Sand Barrel
EC-201		Silt Fence
EC-202		Floating Silt Curtain
EC-204		Perimeter and Slope Sediment Control Devices
EW-201	04-17-12	Bridge Berm Grading without Recoverable Slope (Barnroof Section)
EW-301		Guardrail Grading
PM-110		Line Types
PV-101	04-17-12	
PV-301		Superelevation Details Two Lane Roadway
RF-19C		Subdrains (Longitudinal)
RF-19E		Outlets for Longitudinal, Transverse and Backslope Subdrains
RF-40		Rock Flume for Bridge End Drain
RK-20		Double Reinforced 12" Approach
RK-21		Bridge Approach (abutting PCC or Composite Pavement)
RL-8		Rural Entrance
RM-48		Temporary Floodlighting
SI-173		Object Markers
SI-211		Object Marker and Delineator Placement with Guardrail
TC-1		Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-16-12	Shoulder Closure (One Lane)
TC-213		Lane Closure with Flaggers
TC-253	10-16-12	Paved On-Site Detour

100-1D

### PROJECT DESCRIPTION

This proejct involves the replacement of the Iowa 150 bridge over Bear Creek 0.9 miles north of Co. Rd. D-47. The existing structure will be replaced with a prestressed pretensioned concrete beam bridge. Additional reconstruction will be done to transition from the proposed bridge approaches to existing pavement.

Traffic will be maintained via a on-site detour to the east of the existing bridge.

281-1

282-1 10-19-10

### SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit 14, Permit No. 2012-1020. A copy of this permit is available from the Iowa DOT Office of Contracts upon request. The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

### RESTRICTED STREAM ACCESS

A low water crossing for the Contractor's convenience is not allowed on this project. Stream bank disturbance and access to Bear Creek is not allowed unless specifically designated in the plans. No other access will be

Design No. 113/213 File No. 30661

IOWA DOT DESIGN TEAM Jia/Skogerboe

Buchanan COUNTY PROJECT NUMBER

BRFN-150-3(67)--39-10

SHEET NUMBER

### POLLUTION PREVENTION PLAN

This Base Pollution Prevention Plan (PPP) includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

### I, ROLES AND RESPONSIBILITES

### A. Designer:

- Prepares Base PPP included in the project plan.
   Prepares Notice of Intent (NOI) submitted to Iowa DNR.
- 3. Signature authority on the Base PPP and NOI.

### B. Contractor/Subcontractor:

- 1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
- 2. Submit a detailed schedule according to Article 2602 of the Specifications and any additional plan notes.
- Install and maintain appropriate controls.
- 4. Supervise and implement good housekeeping practices.
- Conduct joint required inspections of the site with inspection staff.
- 6. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.

### C. RCE/Inspector:

- 1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
- 2. Maintain an up-to-date list that identifies contractors and subcontractors as co-permittees.
- 3. Make these plans available to the DNR upon their request.
- 4. Conduct joint required inspections of the site with the contractor/subcontractor.
- 5. Complete an inspection report after each inspection.
- 6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

### II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a on-site detour and bridge on Iowa 150 over Bear Creek.
- B. This PPP covers approximately 5.86 acres with an estimated 3.53 acres being disturbed. The portion
- of the PPP covered by this contract has 3.53 acres disturbed.
- C. The PPP is located in an area of one soil association (Kenyon-Floyd-Clyde).
- The estimated average SCS runoff curve number for this PPP after completion will be 64.
- D. Storm Water Site Map Multiple sources of information comprise the base storm water site map including:
- 1. Drainage patterns Plan and Profile sheets and Situation plans.
- 2. Proposed Slopes Cross Sections.
- 3. Areas of Soil Disturbance construction limits shown on Plan and Profile sheets.
- 4. Location of Structural Controls Tabulations on C sheets.
- 5. Locations of Non-structural Controls Tabulations on C sheets.
- 6. Locations of Stabilization Practices generally within construction limits shown on Plan and Profile sheets. Surface Waters (including wetlands) - Plan and Profile sheets.
- 8. Locations where storm water is discharged Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into unnamed ditches then into Bear Creek.

- A. The contractor's work plan and sequence of operations specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
- 1. EROSION AND SEDIMENT CONTROLS
- a. Stabilization Practices
  - 1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be
  - 2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
  - 3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
  - 4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector's Daily Reports (IDR) or Contract Modifications.
- h. Structural Practices
- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
- 2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.
- c. Storm Water Management
- 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.
- 2. OTHER CONTROLS
- a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state

### POLLUTION PREVENTION PLAN

and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governm laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

- 1) Vehicle Entrances and Exits Construct and maintain entrances and exits to prevent tracking of sediments onto road
- 2) Material Delivery, Storage and Use Implement practices to prevent discharge of construction materials during deliv storage, and use.
- 3) Stockpile Management Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
- 4) Waste Disposal Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
- 5) Spill Prevention and Control Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
- 6) Concrete Residuals and Washout Wastes Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.

  7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from
- 8) Vehicle and Equipment Fueling and Maintenance Perform on site fueling and maintenance in accordance with all
- environment laws such as proper storage of onside fuels and proper disposal of used engine oil or other fluids on site. 9) Litter Management - Ensure employees properly dispose of litter.

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at

### IV. MAINTENANCE PROCEDURES

The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

### V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days and after each rain event that is %" or greater. Storm water monitoring inspections will include:
- 1. Date of the inspection.
- 2. Summary of the scope of the inspection.
- 3. Name and qualifications of the personnel making the inspection.
- 5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving
- 6. Major observations related to the implementation of the PPP.
- 7. Identify corrective actions required to maintain or modify erosion and sediment control measures.

  B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found and complete all actions within 3 calendar days of the inspection.

### VT. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials.

### VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

### VIII. DEFINITIONS

- A. Base PPP Initial Pollution Prevention Plan.
- B. Amended PPP May include Plan Revisions or Contract Modifications for new items and fieldbook entries made by the inspector.
- C. IDR Inspector's Daily Report this contains the inspector's daily diary and item postings.
- D. Controls Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

Design No. 113/213 File No. 30661

IOWA DOT DESIGN TEAM Jia/Skogerboe

																		107-2 10-18-1
1	GRADING FOR GUARDRAIL INSTALLATIONS  Lane(s) to which the installation is adjacent.  Refer to EW-301																	
	L	ocation						Dime	nsions (	Feet)				Eart	hwork			
No.	Direction (b) of Traffic	Station	Side	Foreslope at Guardrail	(X1)	(Y1)		(Y2)	X3	(Y3)	X4)	(Y4)	Z	Excavation Class 10	Embankment In Place CY		Remarks	
1		306+84.75	Lt	3:1	27.5	5.0	-	-		***************************************	77.4	7.0	47.0	(1)		(1) Class 10 qua	antity is already in	luded in the
2		307+21.67	Rt	6:1	40.0	5.0			ļ		127.3	6.5	45.0	(1)			arthwork quantities.	
3		309+07.67	Rt	6:1	40.0	5.0					127.3	6.5	45.0	(1)		information ref	er to Sheet T.1 and t	he cross
4		309+44.59	Lt	6:1	27.5	5.0					77.4	7.0	47.0	(1)		sections.		

													tering services and an extra services a			108-1 10-19-
STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE END POST  Refer to BA-200, BA-201, BA-202, BA-205, BA-250, SI-172, SI-173 and SI-211.  1 See Standards for list of material standards f														for list of materials.		
Layout Lengths Delineators and Object Markers Bid Items 1																
						Delineator	Obje	ct Mark	er		Barrier		· End	Terminal		*
Location Station	VT1	VF	VT2	ET	Туре	Type 1	Type 2	Type 3		- End Anchor Bolted	Transition Section	Steel Beam Guardrail	Standard	Flared for Cable Connection	Adapter	Remarks
				Terminal	12	White		OM-3L	OM-3R	BA-202	BA-201	BA-200	BA-205	BA-206	BA-210	
No. Station Offset	LF	LF	LF	LF		No.	No.	No.	No.	Type	No.	LF	No.	No.	No.	
1 306+84.75 22.8' Lt	28.125			50.0	3			1		1	1	0.0	1	,		Trailing
2 307+21.67 22.8' Rt	40.625	37.50		50.0	3				1	1	1	50.0	1	1		Approaching
3 309+07.67 22.8' Lt	40.625	37.50		50.0	3				1	1	1	50.0	1			Approaching
4 309+44.59 22.8' Rt	28.125			50.0	3			1		1	1	0.0	1			Trailing
						TOTALS		2	2	4	4	100.0	4			
															***************************************	

JA					RTAIN	S			
		Refer to	EC-	202					
lang:	ing	Contair	ment	Cle (Cont	an-out ainment)	Remarks			
LF	:	LF			LF				
4:	10.0	41	0.0		820.0	ROW =	205'		
						Width			

100-17 04-20-10 TABULATION OF SILT FENCES

### Refer to EC-201 Length Remarks End Station Side Begin Station Detour 150 1304+50.00 1306+50.00 1306+50.00 Rt 220.0 1308+25.00 Rt 195.0 1311+00.00 Rt 220.0 1313+00.00 Rt 220.0 1315+00.00 Rt 220.0 1309+00.00 1311+00.00 1313+00.00 1307+50.00 Lt 220.0 1311+50.00 Lt 220.0 1305+50.00 1309+50.00 ML 150 305+00.00 306+75.00 306+75.00 Rt 195.0 308+50.00 Rt 195.0 310+00.00 Rt/L 660.0 Along Bear Creek Bank 310+50.00 Rt/L 660.0 Along Bear Creek Bank 306+50.00 311+50.00 Rt 220.0 313+50.00 Rt 220.0 311+50.00 306+75.00 Lt 305+75.00 311+00.00 Lt 220.0 313+00.00 Lt 220.0 309+00.00

100-18 04-20-10

### TABULATION OF SILT FENCES

4225.0

TOTAL

311+00.00

### FOR DITCH CHECKS

Refer to EC-201

Location	Side	Length	Remarks
Station	Dade	LF	Reliai KS
Detour 150			
1305+75,00	Rt	17.0	
1307+25.00	Rt	22.0	
1308+00.00	Rt	22.0	
1308+65.00	Rt	30.0	Protect Stream Bank
1306+50.00	Lt	15.0	
1307+00.00	Lt	15.0	
1307+75.00	Lt	15.0	
1308+25.00	Lt	20.0	Protect Stream Bank
1309+00.00	Lt	19.0	Protect Stream Bank
1309+75.00	Lt	22.0	
1310+50.00	Lt	22.0	
1311+25.00	Lt	22.0	
1312+00.00	Lt	16.0	
-			
ML 150			
305+50.00	Rt	23.0	
306+25.00	Rt	23.0	
307+00.00	Rt	23.0	
307+75.00	Rt	23.0	
308+45.00	Rt	23.0	Protect Stream Bank
308+00.00	Lt	23.0	Protect Stream Bank
308+75.00	Lt	23.0	THE STATE OF THE S
309+50.00	Lt	23.0	
310+25.00	Lt	23.0	
311+00.00	Lt	23.0	
*********************			
TOTAL		487.0	

Design No. 113/213 File No. 30661

IOWA DOT DESIGN TEAM Jia/Skogerboe

Buchanan COUNTY PROJECT NUMBER

BRFN-150-3(67)--39-10

SHEET NUMBER C.8

### **SHOULDERS**

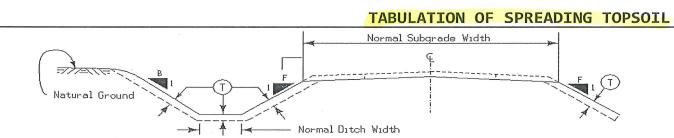
Lane(s) to which the shoulder is adjacent.

Bid Item

Applies only for Paved Shoulders constructed on project with existing granular shoulders.

Does not include shrink.

Calculations a			ht (lbs/cf) of	f 147, a	Special Ba	ckfill unit	weight (1b	s/cf) of 1	.40, ar	nd a Grani	ular Shoul	der unit v	veight (lbs/	cf) of 140.									
		Location		1		, (				· · · · · · · · · · · · · · · · · · ·		Π		1	Quantiti						Γ		
Road Identification	ection (	Station to	o Station	Side	(P) Width	(G) Width	(L) Length	Class 1 Excavati Widenir	ion		(3 Widening	Hot Mi	ix Asphalt	Paved Shoulder	Reinforced Paved Shoulder		Backfill	Modified Subbase	Granular		Earth Sh Constru		Remarks
	Dire Of T	4			FT	FT	FT	CY	2	TON 2	TON/STA	TON	TON/STA	SY 2	SY 2	TON 2	TON/STA	cy ②		TON/STA	STA 2		
Detour 150		1302+92.45				3.0	407.6													13.482	4.1	44.7	
		1307+00.00	1308+24.00			3-11.7	124.0												54.597	44.030	1.2	25.5	
		1309+03.20	1310+40.75			3.0	137.6												18.544	13.482	1.4	15.1	
		1310+40.75	1314+62.92			3-11.7	422.2								<u> </u>				185.881	44.030	4.2	86.9	
	<u> </u>	1304+33.62	1307+00.00			3.0	266.4						-							13.482	2.7	29.2	
		1307+00.00	1308+24.00			3-11.7	124.0												54.597	44.030	1.2	25.5	
		1309+03.20	1310+40.75			3.0	137.6												18.544	13.482	1.4	15.1	
	ļļ	1310+40.75	1313+57.53	Lt		3-11.7	316.8								ļ				139.478	44.030	3.2	65.2	
ML 150	<u> </u>	305+74.40	305+87.32	1+		8.0	12.9							<u> </u>			ļ		10.491	81.200	0.1	3.5	
INC TOO		305+87.32	306+19.59		11.1	8.0	32.3							39.8		24 396	75.600		10.491	01.200	0.3	8.2	
		306+19.59	306+44.49				24.9							29.4	ļ		73.500				0.2	6.4	
***************************************	<u> </u>	306+44.49	306+84.49		8.4		40.0					1		a)	ļ	10.502	73.300	a)			0.2		a) See to Tab. 104-8A for quantities
***************************************	'I'''															<u> </u>							
		305+74.40	306+06.67	Rt	14.9		32.3			***************************************				53.4		32.754	101.500				0.3	10.6	
		306+06.67	306+44.46		14.9-13.4		37.8							59.3	I	35.182	93.100				0.4	12.9	
		306+44.46	306+82.03	Rt	13.4-9.6		37.6						· ·	47.9		30.244	80.500				0.4	13.2	
	ļ	306+82.03	306+84.49	Rt	9.6		2.5							2.6		1.567	63.700				0.0	0.9	
************************************		200.44 85	309+47.31		9.6		2.5				ļ					ļ	<u> </u>				0.0	0.9	
	-}	309+44.85 309+47.31	309+84.89				37.6				ļ			2.6 47.9		29,463	78,400				0.4	13.4	
		309+84.89	310+22.67				37.8				<u> </u>			59.3		34.380	91.000	l .			0.4	12.9	
		310+22.67	310+54.94		14.9		32.3							53.4		34.380	91.000				0.3	10.6	
		310122.07	310134.34		14.2		22.0					1		33.4							0.5	10.0	
		309+44.84	309+84.85	Rt	8.4		40.0				ĺ			a)		İ		a)					a) See to Tab. 104-8A for quantities
		309+84.85	310+09.75	Rt	9.6-11.1		24.9				Ì			29.4		16.907	67.900				0.2	9.1	
	1	310+09.75	310+42.02	Rt	11.1	ĺ	32.3							39.8		24.396	75.600				0.3	11.6	
		310+42.02	310+54.94	Rt		8.0	12.9												10.491	81.200	0.1	4.8	
MI 150 Sh14		704:00 00	205.74.56				17.				ļ												L) C
ML 150 Shoulder	ļ	304+00.00	305+74.56			8.0	174.6			······································	ļ								b)				b) See to Typical 7136-X on Sheet B.3
Reshaping	.	310+54.94	315+00.00			8.0	445.1												b)		····		b) See to Typical 7136-X on Sheet B.3 b) See to Typical 7136-X on Sheet B.3
**************************************		304+25.00 310+54.94	305+74.56			8.0	149.6 445.1												b) b)		**************************************		b) See to Typical 7136-X on Sheet B.3
		310+34.94	315+00.00	LL		8.0	445.1					<u> </u>							υ)				b) See to Typical 7136-X on Sheet B.3
			TOTAL											464.0		247 504			502 404		22.0	426.3	
		· · · · · · · · · · · · · · · · · · ·	TOTALS									-		464.9		247.591			583.484		23.0	426.3	
		W.																					
***************************************	· · · · · · · · · · · · · · · · · · ·			T					i					1		:				i	······································	·····	



Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

		Placeme	ent Descriptio	n				L	Topsoil	Excavation Avai	ilable From	
Area	Quantity	Locat	ion	Side	Slope	T	Remarks		Amount Reserved	Station to	Station	Remarks
No.	CY	Station to	Station	L. or R.	B. or F.	IN			CY			
1		Į.			1		No Topsoil included for Detour Embankment		366.0	1303+69.40	1314+35.98	A nominal on foot of topsoil excavated
2	1550.0	303+25.00	315+00.00	BOTH	вотн	8.0	574 CY of Strip,Stockpile & Spread Bid Item		208.0	303+25.00	315+00.00	prior to Detour and Mainline construction.
	·						976 CY of Furnish & Spread Topsoil Bid Item					Need based on estimated 40% shrink.
									574.0			

Design No. 113/213 File No. 30661

103-4 04-19-11

108-30 10-16-12 CRASH CUSHIONS Lane(s) to which the installation is adjacent. (2) Complete this section when using the Temporary Crash Cushion bid item. Refer to BA-500 Crash Cushion (Select One)* Sand Barrel Details (2) Earthwork* Spare Parts Kit (Select One)* Direction of Traffic Excavation Class 10 Location No. Side Obstacle Description Remarks Station Length Length Length Length Length EACH EACH 1307+51.54 Lt 1.88 1307+51.54 Rt 1.88 1309+88.49 Lt 1.88 
 5.88
 24.25
 11.13
 9.13
 13.58
 * 6.0

 5.88
 24.25
 11.13
 9.13
 13.58
 * 5.0

 5.88
 24.25
 11.13
 9.13
 13.58
 * 4.0

 5.88
 24.25
 11.13
 9.13
 13.58
 * 4.0

 5.88
 24.25
 11.13
 9.13
 13.58
 * 4.0
 TBR for Detour Bridge TBR for Detour Bridge TBR for Detour Bridge 1309+88.49 Rt 1.88 TBR for Detour Bridge TOTALS 4 * 19.0 * Quantity included in earthwork quantities on 'T' Sheets. 108-33

04-20-10 TEMPORARY BARRIER RAIL Refer to BA-400 and BA-401 (Select One) Length Station to Station No. Concrete Steel Remarks BA-401 BA-400 1307+51.50 1309+88.50 237.5 1307+51.50 1309+88.50 237.5 Right Side TOTAL 475.0

					108-27 10-16-12
TE	MPORARY	FLOO	DLIG	HTING	LUMINAIRES
No.	Location Station	Offset	Number Lumin.		Remarks
1	302+18.74	Rt	1		
2	315+55.69	Rt	1		
	TOTAL		2		

112-6 10-21-08 BRIDGE APPROACH SECTION Refer to the RK-Series. * Not a bid item Location Approach Pavement Subdrain Class 'A'* Single-Double-Fixed or Non-Reinf Pay Reinf. Reinf. Movable Perforated Porous Crushed Stone Modified Polymer Pavement Remarks Bridge Station End Length Pavement Pavement Abutment Subdrain Outlet Thickness Subdrain 4" Backfill Backfill Subbase Area Grid Area Area Inches F or M Side 167.1 167.1 306+44.49 Rt 308+14.67 12.0 83.5 93.3 62.2 72.0 12.0 11.0 363.8 363.8 342.500 308+14.67 12.0 83.5 93.3 62.2 64.0 309+84.89 342.500 TOTALS 167.0 136.0 186.6 124.4 334.2 23.0 685.000 727.6

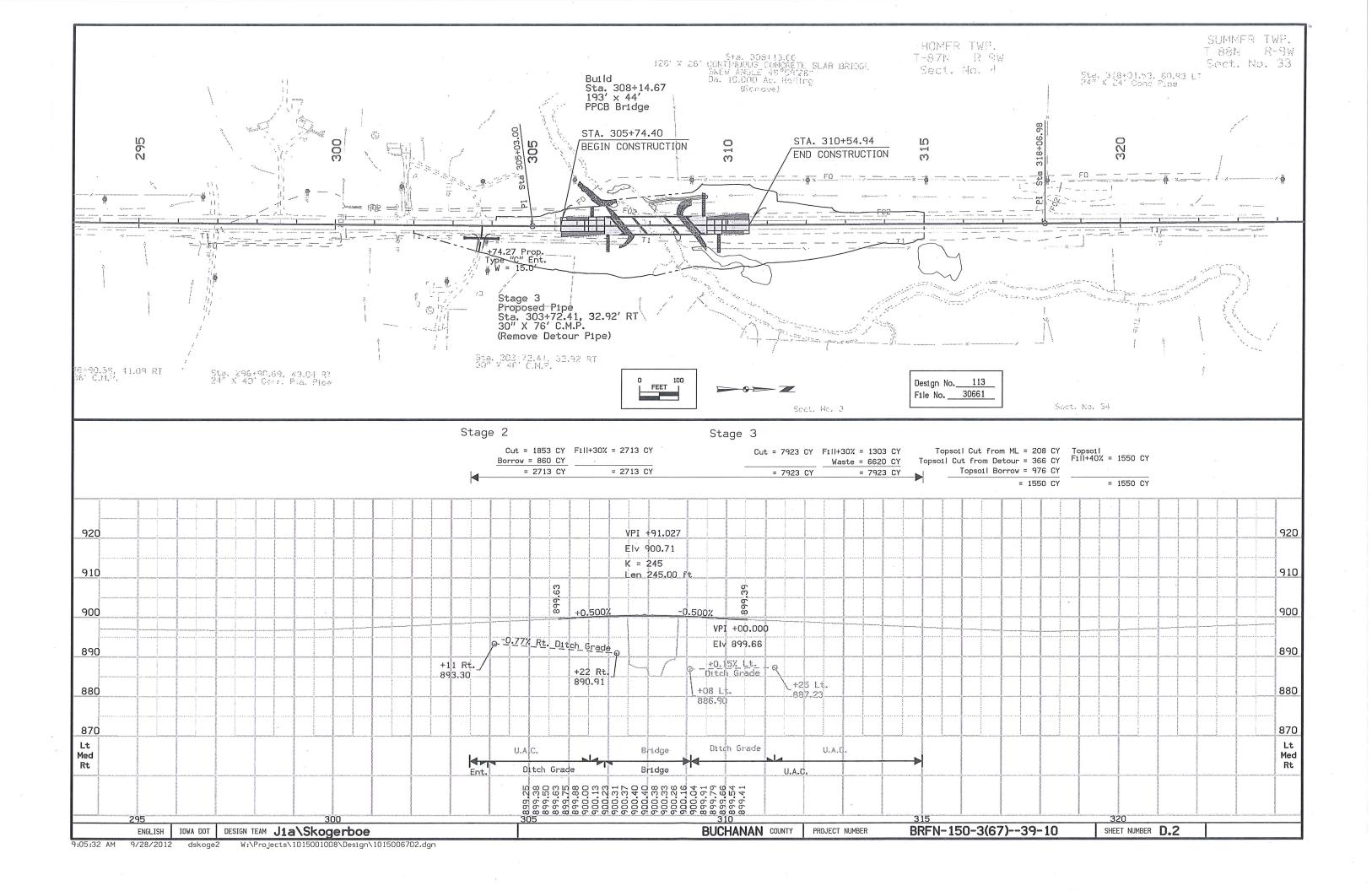
												104-8/ 04-20-1
		SC	COUR PRO	OTECT:	ION OR	ROCK F	FLUME FOR	BRIDGE	END DI	RAIN		① Not a Bid Ite
Refer to Standard Road Plan RF-39 or RF-40												
Location			Shoulder				Rock Flume RF-40			Scour Protection RF-39		
Bridge Station	Bridge Corner	Distance	Panels	l PCC	Polymer	Modified	Macadam	Engineering	l	Outlet or Channel	Turf Reinforced	Remarks
		DI-1 or DI-2	Required	Grid 1	Subbase	Stone Base ①	Fabric 1	Stone 1	Scour Protection	Mat (TRM)		
200.14.67	C1.1		ABCorD		Sq.Yds.	Tons	Material Tons	Sq.Yds.	Tons	Sq. Feet	Squares	
308+14.67	SW	33.5	В, С	42.7	51.6	32.500		33.7	23.700			
308+14.67	SE	30.4						56.0	39.400			
308+14.67	NW	30.4						76.5	53.900			
308+14.67	NE	33.5	В, С	42.7	51.6	32.500		60.2	42.400			
		TOTALS		85.4	103.2	65.000		226.4	159.400			
·	-			·	·							

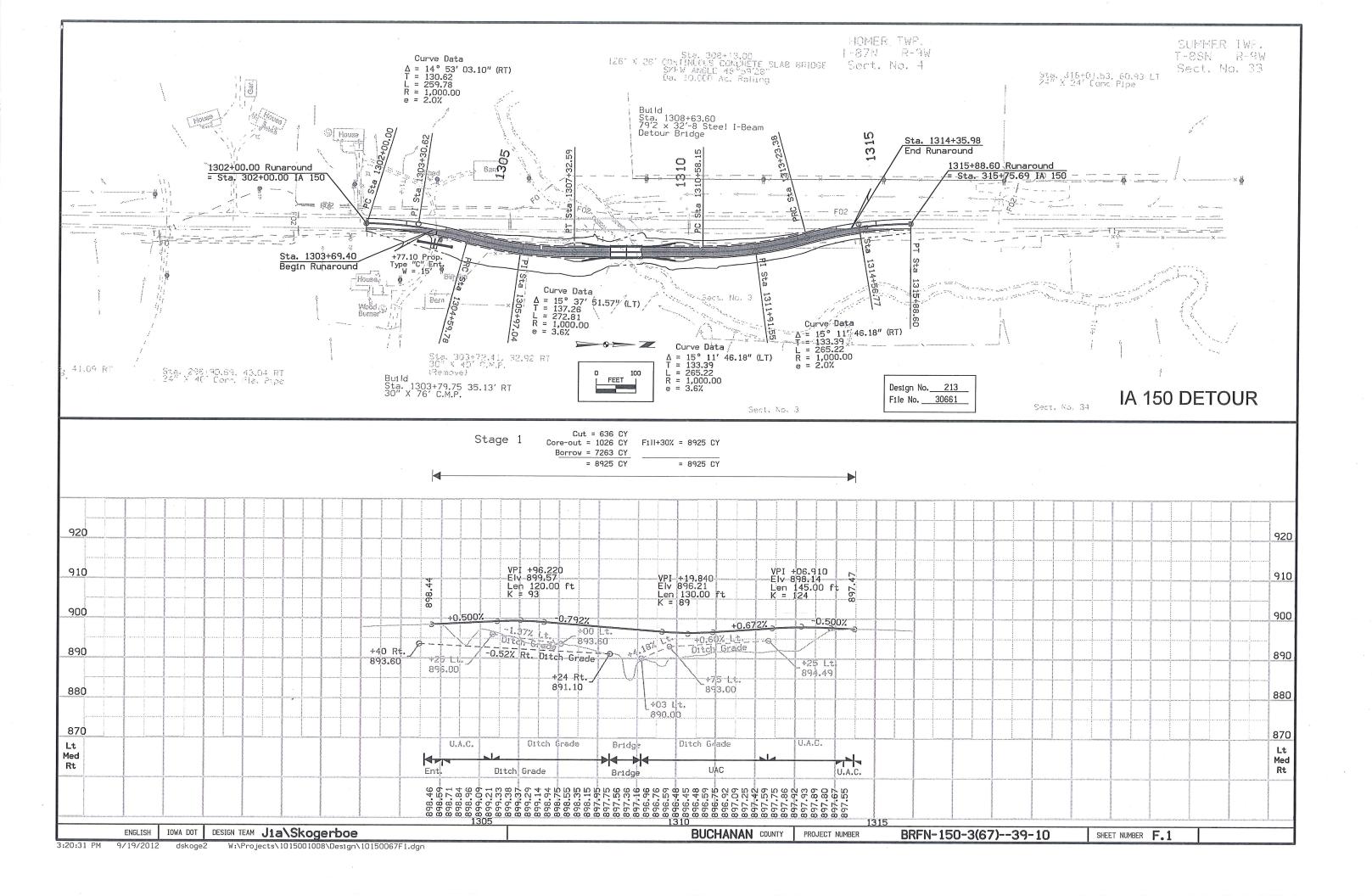
Design No. 113/213 File No. 30661

**ENGLISH** IOWA DOT DESIGN TEAM Jia/Skogerboe

SHEET NUMBER C.11

Buchanan COUNTY PROJECT NUMBER BRFN-150-3(67)--39-10





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